



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,085	11/17/2003	Kia Silverbrook	ZF135US	9612
24011	7590	04/20/2004	EXAMINER	
SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			TRAN, LY T	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/713,085	Applicant(s) SILVERBROOK, KIA	
	Examiner Ly T TRAN	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/17/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 5, 7-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hetzer et al. (USPN 5,929,877)

With respect to claims 1, 5 and 12, Hetzer et al. discloses an ink jet print head including an array of nozzles use to eject ink onto the media (Fig.1, 3: element 26); a nozzle guard/ a shield covering the exterior of the nozzle (Fig.1, 3: element 1) to inhibit damaging contact with the exterior of the array of nozzles; nozzle guard having an array of passage (Fig.1, 3: element 111) in registration with the array of nozzles so as not to impede the normal trajectory of ink ejection, each passages having an inner end adjacent the nozzles and an outer end remote from the nozzles; ; nozzle guard including at least one fluid inlet opening in fluid communication with the inner ends of the passages (Fig.2: element 29) printer including a source of a pressured fluid is a pump (Column 6: line 1-26) in fluid communication with at least one fluid inlet opening ; wherein the fluid passes through the passages from the inner ends to the outer ends, to

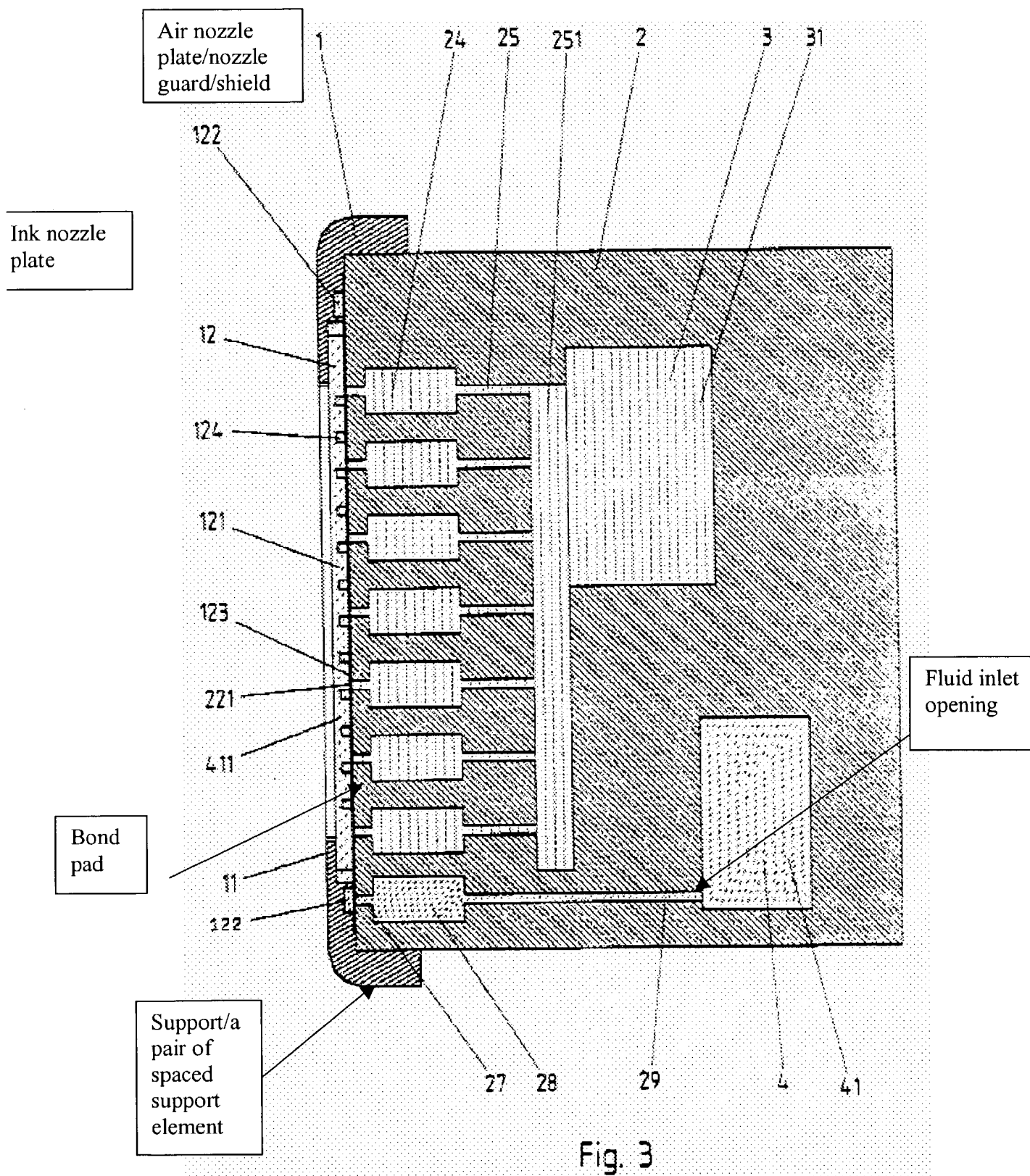
Art Unit: 2853

inhibit the build up of foreign particles on the nozzle array (Column 3: line 50-67,  
Column 4: line 15-17)

With respect to claims 9 and 10, Hetzer et al. fluid inlet openings are arranged in the support element remote from a bond pad of the nozzle array (Fig. 3).

With respect to claims 7 and 8, Hetzer et al. discloses that the nozzle guard has a support means for supporting the nozzle shield on the printhead and support means is integrally formed with the shield, the support means including a pair of spaced support element, one being arranged at each end of the nozzle shield (Fig. 3).

Art Unit: 2853



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hetzer et al (USPN 5,929,877) in view of McClelland et al. (USPN 6,227,660).

Oda et al. fails to teach the shield is formed from silicon (Column 2: line 24-27).

McClelland et al. teaches the printhead is made of silicon.

It would have been obvious to one having skill in the art to have the shield formed of silicon as taught by McClelland et al. The motivation of doing so in order to protect from separation from the substrate, buckling or warpage, or deformation due to the thermal stresses.

3. Claims 2, 11 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetzer et al (USPN 5,929,877) in view of Ebisawa (USPN 5,528,271).

Hetzer fails to teach the fluid passes at a velocity that less than the velocity of the ejected ink and the fluid is passed through the passage at 1m/s and the fluid is air.

Ebisawa teaches fluid passes at a velocity that less than the velocity of the ejected ink and the fluid is passed through the passage at 1m/s and fluid is air (Column7: line 57-61, Column 8: line 1-8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made t have the velocity of the fluid less than the velocity of the ink to prevent the adherence thereof to the ink discharge surface.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hetzer et al (USPN 5,929,877) in view of Kojima et al. (USPN 6,450,615).

Hetzer fails to teach that ink droplets are ejected at a velocity of 3m/s.

Kojima teach that ink droplets are ejected at a velocity of 4m/s or less (Column 14: line 34-35).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to eject the ink at the velocity of 4m/s or less as taught by Kojima. The motivation of doing so is to further decrease the diameter of the droplet.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kanehisa (JP 406134986) discloses a guard plate covering the orifice plate to prevent the damage of the orifice plate cause by contact between the orifice plate and recording paper and the like.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



April 8, 2004

  
**Stephen D. Meier**  
Primary Examiner